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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/520,005

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Hiroshi Kimura

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EXAMINER

PERRY, ANTHONY T

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/520,005	Applicant(s) KIMURA, HIROSHI	
	Examiner ANTHONY T. PERRY	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-17, 19, 22-25 and 27 is/are rejected.
- 7) ☒ Claim(s) 18, 20, 21, 26, 28 and 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/30/04, 8/25/04, 5/03/06, 11/06/06, 11/09/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-17, 19, 22-25, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Beierlein et al. (US 6,501,217).

Regarding claim 11, Beierlein discloses an organic electroluminescent device comprising an organic electroluminescent light-emitting part including an organic light-emitting layer (29,30), between a metal electrode (26) and a transparent electrode (31), the organic electroluminescent device comprising: a transparent electrically conductive film (28) on a surface of the metal electrode (26), on the organic electroluminescent light-emitting part (29,30) side thereof (for example, see Fig. 5). Beierlein teaches the thickness of the transparent electrically conductive film (28) being 0.001-1 microns and the barrier film (27) 0.01-1 microns (distance between the metal layer (26) and the light emitting layer being 0.011-2 microns) (for example, see table 2), which inherently satisfies the claimed equation: $L=(2n+1)\lambda/4$ ($n=0, 1, 2, \dots$), where L is the optical distance from the organic light-emitting layer to the metal electrode, and λ is the wavelength of light emitted by the organic light-emitting layer.

Regarding claim 12, Beierlein teaches the transparent electrically conductive film (28) being formed of ZnO (for example, see col. 7, lines 43-46).

Regarding claim 13, Beierlein discloses a monochrome panel or area color panel, including the organic electroluminescent device according to claim 11 (for example, see Fig. 5).

Regarding claim 14, Beierlein discloses an organic electroluminescent device comprising an organic electroluminescent light-emitting part including an organic light-emitting layer (29,30), between a metal electrode (26) and a transparent electrode (31), the organic electroluminescent device comprising: a transparent electrically conductive film (28) is provided on a surface of the metal electrode, on the organic electroluminescent light-emitting part side thereof; wherein light of wavelengths different than the wavelength of light emitted by the organic light-emitting layer is absorbed by at least one, or both, of the metal electrode and the transparent electrically conductive film, and only light of the wavelength emitted by the organic electroluminescent light-emitting layer is discharged from the transparent electrode (for example, see Fig. 5 and col. 12, lines 9-10).

Regarding claim 15, Beierlein teaches the transparent electrically conductive film (28) being formed of ZnO (for example, see col. 7, lines 43-46).

Regarding claim 16, Beierlein discloses a monochrome panel or area color panel, including the organic electroluminescent device according to claim 14 (for example, see Fig. 5).

Regarding claim 17, Beierlein discloses an organic EL device that comprises an EL layer (for example, Alq3, which emits blue light) and a metal electrode (Mo or an alloy thereof), which will inherently absorb blue light (for example, see col. 4, lines 7-10).

Regarding claim 19, Beierlein teaches the transparent electrically conductive film being ITO, which is indium oxide doped with tin as an impurity. It is noted that ITO has a blue tint to it. Therefor, Beierlein teaches the transparent electrically conductive film has an impurity added thereto so that it is has a same color of the light emitted by the organic electroluminescent light-emitting layer (Alq3 emits blue light) (for example, see col. 7, lines 43-45).

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Regarding claim 22, Beierlein discloses an organic electroluminescent device comprising an organic electroluminescent light-emitting part including an organic light-emitting layer (29,30), between a metal electrode (26) and a transparent electrode (31), the organic electroluminescent device comprising: a transparent electrically conductive film (28) on a surface of the metal electrode (26), on the organic electroluminescent light-emitting part (29,30) side thereof (for example, see Fig. 5). Beierlein teaches the thickness of the transparent electrically conductive film (28) being 0.001-1 microns and the barrier film (27) 0.01-1 microns (distance between the metal layer (26) and the light emitting layer being 0.011-2 microns) (for example, see table 2), which inherently satisfies the claimed equation: $L=(2n+1)\lambda/4$ ($n=0, 1, 2, \dots$), where L is the optical distance from the organic light-emitting layer to the metal electrode, and λ is the wavelength of light emitted by the organic light-emitting layer. and wherein light of wavelengths different than the wavelength of light emitted by the organic electroluminescent light-emitting layer is absorbed by the metal electrode and/or the transparent electrically conductive film, and only light of the wavelength emitted by the organic electroluminescent light-emitting layer is discharged from the transparent electrode (for example, see Fig. 5 and col. 12, lines 9-10).

Regarding claim 23, Beierlein teaches the transparent electrically conductive film (28) being formed of ZnO (for example, see col. 7, lines 43-46).

Regarding claim 24, Beierlein discloses a monochrome panel or area color panel, including the organic electroluminescent device according to claim 22 (for example, see Fig. 5).

Regarding claim 25, Beierlein discloses an organic EL device that comprises an EL layer (for example, Alq3, which emits blue light) and a metal electrode (Mo or an alloy thereof), which will inherently absorb blue light (for example, see col. 4, lines 7-10).

Regarding claim 27, Beierlein teaches the transparent electrically conductive film being ITO, which is indium oxide doped with tin as an impurity. It is noted that ITO has a blue tint to it. Therefor, Beierlein teaches the transparent electrically conductive film has an impurity added thereto so that it is has a same color of the light emitted by the organic electroluminescent light-emitting layer (Alq3 emits blue light) (for example, see col. 7, lines 43-45).

Allowable Subject Matter

Claims 18, 20-21, 26, and 28-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to disclose or fairly suggest:

- ✧ A blue monochrome backlight and color-converting filters, wherein the metal electrode absorbs light other than blue light, and only the blue monochrome light from the backlight is reflected by the metal electrode, in combination with the remaining claimed limitations as called for in claim 18. The examiner notes that using a blue monochrome backlight in conjunction with color converting layers is well known the art of full color EL display devices, however, there is no suggestion in the prior art of record of a metal electrode provided in such a device, wherein the metal electrode absorbs light other than blue light, and only reflects the blue monochrome light from the backlight.
- ✧ An organic electroluminescent device wherein the transparent electrically conductive film on a surface of the metal electrode is constituted from a material of one of $\text{In}_2\text{O}_3\text{-ZnO}$, $\text{In}_2\text{O}_3\text{-SnO}_2$, ZnO , and SnO_2 , containing an impurity of one

of CuO, Co, and Ti at a concentration of not more than 1%, and the transparent electrically conductive film absorbs blue light, in combination with the remaining claimed limitations as called for in claim 20 (claim 21 would be allowable for the same reasons since it is dependent on claim 20).

- ❖ A blue monochrome backlight and color-converting filters, wherein the metal electrode absorbs light other than blue light, and only the blue monochrome light from the backlight is reflected by the metal electrode, in combination with the remaining claimed limitations as called for in claim 26. The examiner notes that using a blue monochrome backlight in conjunction with color converting layers is well known the art of full color EL display devices, however, there is no suggestion in the prior art of record of a metal electrode provided in such a device, wherein the metal electrode absorbs light other than blue light, and only reflects the blue monochrome light from the backlight.
- ❖ An organic electroluminescent device wherein the transparent electrically conductive film on a surface of the metal electrode is constituted from a material of one of $\text{In}_2\text{O}_3\text{-ZnO}$, $\text{In}_2\text{O}_3\text{-SnO}_2$, ZnO , and SnO_2 , containing an impurity of one of CuO, Co, and Ti at a concentration of not more than 1%, and the transparent electrically conductive film absorbs blue light, in combination with the remaining claimed limitations as called for in claim 28 (claim 29 would be allowable for the same reasons since it is dependent on claim 28).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Anthony Perry* whose telephone number is **(571) 272-2459**. The examiner can normally be reached between the hours of 9:00AM to 5:30PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-2457. **The fax phone number for this Group is (571) 273-8300.**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Anthony Perry/

Anthony Perry
Patent Examiner
Art Unit 2879
March 30, 2008

/Mariceli Santiago/
Primary Examiner, Art Unit 2879